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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/596,179

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EXAMINER

DUONG, DIEU HIEN

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,179	Applicant(s) BRAAM, REINHOLD	
	Examiner DIEU HIEN T. DUONG	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-16, 18, 20- 24 is/are rejected.
- 7) ☒ Claim(s) 17 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/02/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Application

1. This Office Action is a response to Applicants' Preliminary Amendment filed on 06/02/2006. In virtue of this Preliminary Amendment, claims 1-12 are canceled; claims 13-24 are newly added; thus claims 13-24 are currently presented in the instant application.

Priority

2. Acknowledgement is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 06/02/2006 in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is considered by the examiner.

If applicant is aware of any prior art or any other co-pending application not already of record, he/she is reminded of his/her duty under 37 CFR 1.97 to disclose the same.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: AE_{4,1}, AE_{3,2}, AE_{2,2}, AE_{1,3}. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures

appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "an offset", "an extent of the laminae", "a distance between laminae", "an axial direction" and "a memory element" must be shown or the feature canceled from the claims 19 and 22. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The specification is accepted as part of the formal application.

Applicant cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

6. Claim 1 is objected to because of the following informalities:

Claim 1, lines 3, “they are movable” should be changed to - -said antenna elements are movable- -

Claim 16, line 3, “are” should be changed to - -is- -;

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 14-16 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 14:

Lines 2-3, the recitation "wherein the antenna elements for coupling in or coupling out an antenna signal are provide with a RF contact" is unclear. It is not

clear since "RF contact" is already defined in claim 13. If they are the same, it should be "said RF contact". For examination purpose, it is interpreted as "said RF contact".

Regarding claim 15:

Claim 15 is rejected since they are dependent on claim 14.

Regarding claim 16:

Lines 2- 4, the recitation "wherein the antenna elements provided with the RF contact are arranged in an inner region of the carrier, and wherein a respective portion of the antenna elements are connected via leads to a multiplexer connected to a respective RF contact" is not clear. It is not clear that the respective RF contact of claim 16 is the same or different with "RF contact" of claims 13-15.

Regarding claim 18:

Lines 2-4, the recitation "wherein laminae adjacent to one another on a direction perpendicular to the pivots overlap in the first position and can be electrically conductively connected to one another in the overlap region" is unclear. It is not clear for the reasons set forth below:

- a) How the "laminae" of claim 18 and the "antenna elements" of claim 13 are related to each other.
- b) What is the meaning of the word "an" in the phrase "the first position and can be electrically conductive... overlap region".
- c) The phrase "can be" is not positive words in the claimed language.

Regarding claim 19:

Line 3, there is insufficient antecedent basis for the limitation “the axial direction” in the claim.

Clarifications are required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Sakiyama et al. (US 2005/0012675 A1), hereinafter “Sakiyama”.

Regarding claim 13, Sakiyama discloses, in Figures 3, 7, 6b and page 7, par. [0135], an antenna arrangement comprising an array of electrically conductive antenna elements (12, 13) arranged on a carrier (1), wherein antenna elements (12, 13) are formed and mounted in such a way that said antenna elements (13) are movable between a first position, in which an electrical contact to at least one adjacent antenna (12) is made, and a second position, in which there is an electrical decoupling from the adjacent antenna element (12); at least one RF contact (11) provided for at least one of the antenna elements and a control device (15) for moving the antenna elements (13)

between the first and second position and for forming a variable antenna structure, proceeding from the at least one antenna element provide with the RF contact.

Regarding claim 14, as applied to claim 13, Sakiyama discloses, in Figures 3 and 7, wherein the antenna elements (12, 13) for coupling in or coupling out an antenna signal are provided with said RF contact (11).

Regarding claim 15, as applied to claim 14, Sakiyama discloses, in Figure 6b, wherein the antenna elements (12, 13) provided with the RF contact (11) are arranged at an edge of the carrier (1).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakiyama et al. (US 2005/0012675 A1), hereinafter "Sakiyama" in view of Boyle (US 2001/0054981 A1).

Regarding claim 16, Sakiyama disclose, in Figure 3, the antenna elements (12, 13) provided with the RF contact (11) are arranged in an inner region of the carrier (1), and wherein a respective portion of the antenna elements (12, 13) is connected to a respective RF contact (11).

Sakiyama does not disclose, a multiplexer connected to the antenna elements and the RF contact.

Boyle discloses, in Figure 1, a multiplexer (16) connected to the antenna elements and the RF contact.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the multiplexer of Boyle in the antenna device of Sakiyama to achieve the claimed invention, doing so would improve the performance of the antenna device (par. [0011]).

13. Claims 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakiyama et al. (US 2005/0012675 A1), hereinafter "Sakiyama" in view Aoki (US 2002/0149086 A1).

Regarding claim 20, Sakiyama discloses, in Figure 3, the antenna elements (12, 13) are arranged on the carrier (1).

Sakiyama does not disclose the carrier being semiconductor chip.

Aoki discloses, in Figure 1, the carrier being semiconductor chip.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify antenna device of Sakiyama with the carrier being the semiconductor chip as taught by Aoki, doing so would reduce the wiring length and improve frequency characteristics in an RF circuit (par. [0080]).

Regarding claim 21, Sakiyama/Aoki disclose, (Sakiyama, Figure 3), wherein each antenna element (12, 13) is arranged on an associated matrix element of a row/column matrix of the semiconductor chip and each antenna element is assigned a row address and a column address.

Regarding claim 22, as applied to claim 21, Sakiyama/Aoki disclose, (Sakiyama, Figure 29), wherein each matrix element is assigned a memory element (55) for storing a current position of the associated antenna element.

Regarding claim 23, as applied to claim 20, Sakiyama/Aoki disclose, (Aoki, Figure 1), wherein the control device (15) is integrated on the semiconductor chip.

Regarding claim 24, as applied to claim 20, Sakiyama/Aoki disclose, (Aoki, Figure 1), wherein a circuit arrangement for RF signal processing (2b) is integrated on the semiconductor chip.

Allowable Subject Matter

14. Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. Claim 19 is would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIEU HIEN T. DUONG whose telephone number is (571)272-8980. The examiner can normally be reached on Monday - Friday, from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on 571-272-1662. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

04/09/08

DD

AU 2821

/Trinh Vo Dinh/

Primary Examiner, Art Unit 2821

April 11, 2008